ABSTRACT OF THE DISCLOSURE

A transparent vessel is filled with a mixture solution containing a first photo-curable resin of a low refractive index and a second photo-curable resin of a high refractive index different in curing mechanism. When light at a wavelength capable of curing the first photo-curable resin but incapable of curing the second photo-curable resin is applied to the mixture solution through an optical fiber, the first photo-curable resin can be cured in a state in which the second photo-curable resin is enclosed in the cured first photo-curable resin. Because the refractive index increases according to curing, a self-condensing phenomenon can be generated so that an optical path portion is formed. The optical path portion emits leakage light to its surroundings to thereby form an outer circumferential portion. Then, all uncured resins in the mixture solution are cured. The outer circumferential portion containing a high percentage of the cured first photo-curable resin serves as a clad because the refractive index of the outer circumferential portion is lower than that of the optical path portion.